

CLAIMS

1. A method for authenticating a user of a data transfer device, comprising:

5 setting up (202) a data transfer connection from the data transfer device to a service access point;

c h a r a c t e r i z e d by

inputting (204) identification data of a subscriber of a mobile communications system to the service access point;

10 checking (206) from the mobile communications system whether the mobile subscriber identification data contains an access right to the service access point; and,

15 if a valid access right exists, generating (212) a password, transmitting (214) the password to a subscriber terminal corresponding to the mobile subscriber identification data, and logging in (216) to the service access point from the data transfer device using the password transmitted to the subscriber terminal.

2. A method according to claim 1, **c h a r a c t e r i z e d** in that the mobile subscriber identification data consist of a mobile subscriber international ISDN number (MSISDN).

20 3. A method according to claim 1, **c h a r a c t e r i z e d** in that in connection with the check, a query is sent to the home location register of the mobile communications system.

25 4. A method according to claim 3, **c h a r a c t e r i z e d** in that the mobile subscriber identification data consist of the mobile subscriber international ISDN number, and with the query first the home location register of the mobile communications system is searched for the international mobile subscriber identity (IMSI) corresponding to the mobile subscriber international ISDN number and then with the international mobile subscriber identity the home location register of the mobile communications system is searched for 30 the related subscriber data, where the access right is defined.

5. A method according to claim 1, **c h a r a c t e r i z e d** in that the password is transmitted to the subscriber terminal in a packet-switched message.

35 6. A method according to claim 1, **c h a r a c t e r i z e d** in that the password is transmitted to the subscriber terminal in a short message.

7. A method according to claim 1, characterized in that the data transfer connection between the data transfer device and the service access point is a radio link.

5 8. A method according to claim 7, characterized in that the radio link is implemented using a wireless local area network.

9. A method according to claim 7, characterized in that the radio link is implemented using a short-range radio transceiver.

10 10. A method according to claim 1, characterized in that the data transfer connection between the data transfer device and the service access point is wired.

11. A method according to claim 1, characterized in that the method further comprises: billing for the data transfer connection between the data transfer device and the service access point in a bill directed to the identification data of the mobile subscriber.

15 12. A method according to claim 1, characterized in that the data transfer connection initially set up between the data transfer device and the service access point is maintained until login.

20 13. A method according to claim 1, characterized in that the method further comprises: transmitting a second password from the service access point to the data transfer device over a data transfer connection, the second password being also used in connection with login.

25 14. A method according to claim 1, characterized in that the method further comprises: transmitting a confirmation identifier from the service access point to the data transfer device over a data transfer connection and transmitting the same confirmation identifier to the subscriber terminal together with the password, the password being only used if the received confirmation identifiers are the same.

30 15. A method according to claim 1, characterized in that the data transfer connection between the data transfer device and the service access point is set up when the subscriber terminal is roaming.

16. A method according to claim 15, characterized in that the method further comprises:

35 informing the subscriber terminal that if the roaming by the subscriber terminal in the visited mobile communications system fulfils a predetermined criterion, the data transfer connection from the data transfer

device to the service access point is provided at a lower charge than usual; and

implementing the data transfer connection from the data transfer device to the service access point at a lower charge than usual if the predetermined criterion is met.

5 17. A method according to claim 16, **characterized** in that the method further comprises: receiving at the visited mobile communications system information from the subscriber terminal indicating that a lower charge data transfer connection to the service access point is preferred.

10 18. A method according to claim 17, **characterized** by receiving at the authentication server information from the visited mobile communications system indicating that the data transfer device of the user of the subscriber terminal will be provided with a lower charge data transfer connection to the service access point.

15 19. A method according to claim 16, **characterized** in that the predetermined criterion is met if the subscriber terminal contacts the visited mobile communications system and/or if the subscriber terminal continues roaming in the visited mobile communications system for a predetermined time.

20 20. A method according to claim 16, **characterized** in that to check whether the predetermined criterion is met, a periodic query is made to the home location register of the mobile subscriber's home mobile communications system.

25 21. A method according to claim 1, **characterized** in that the method further comprises: using the mobile subscriber identification data as a user ID in connection with login.

30 22. A method according to claim 1, **characterized** in that the method further comprises: transmitting a user ID to the subscriber terminal corresponding to the mobile subscriber identification data and using the transmitted user ID in connection with login.

35 23. A method according to claim 1, **characterized** in that the method further comprises: transmitting a user ID to the data transfer device over a data transfer connection and using the transmitted user ID in connection with login.

24. A system for authenticating a user of a data transfer device, comprising: a data transfer device (100), a service access point (110) that can

be linked to the data transfer device (100) over a first data transfer connection (102), and an authentication server (114) linked to the service access point (110) over a second data transfer connection;

c h a r a c t e r i z e d in that

5 the service access point (110) is configured to receive over the first data transmission connection (106) identification data of a subscriber of a mobile communications system inputted from the data transfer device (100) and to transmit the mobile subscriber identification data to the authentication server (114) over the second data transfer connection;

10 the authentication server (114) is configured to check from the mobile communications system (134) over a third data transfer connection whether the mobile subscriber identification data contains an access right to the service access point (110) and, if a valid access right exists, to generate a password and transmit the password to a subscriber terminal (102) 15 corresponding to the identification data of the subscriber of the mobile communications system (134); and

the data transfer device (100) is configured to use the password transmitted to the subscriber terminal (102) in connection with login to the service access point (110).

20 25. A system according to claim 24, **c h a r a c t e r i z e d** in that the identification data of the subscriber of the mobile communications system (134) consist of the mobile subscriber international ISDN.

25 26. A system according to claim 24, **c h a r a c t e r i z e d** in that the authentication server (114) is an AAA server (Authentication, Authorization and Accounting).

27. A system according to claim 24, **c h a r a c t e r i z e d** in that for checking the access right to the service access point (110), the authentication server (114) is configured to transmit a query to the home location register (130) of the mobile communications system (134).

30 28. A system according to claim 27, **c h a r a c t e r i z e d** in that the identification data of the subscriber of the mobile communications system (134) consist of the mobile subscriber international ISDN number, and the authentication server (114) is configured to submit the query to first search the home location register (130) of the mobile communications system (134) for 35 the international mobile subscriber identity corresponding to the mobile subscriber international ISDN number and then use the international mobile

subscriber identity to search the home location register (130) of the mobile communications system (134) for the related subscriber data, where the access right is defined.

29. A system according to claim 24, characterized in that
5 the authentication server (114) is configured to transmit the password to the subscriber terminal (102) in a packet-switched message.

30. A system according to claim 24, characterized in that the authentication server (114) is configured to transmit the password to the subscriber terminal (102) in a short message.

10 31. A system according to claim 24, characterized in that the first data transfer connection (106) is a radio link.

32. A system according to claim 31, characterized in that the service access point (110) is configured to implement the radio link using a wireless local area network.

15 33. A system according to claim 31, characterized in that the service access point (110) comprises a short-range radio transceiver for implementing the radio link.

34. A system according to claim 24, characterized in that the first data transfer connection (106) is wired.

20 35. A system according to claim 24, characterized in that the system further comprises an accounting server (116), which is configured to generate the billing data relating to the first data transfer connection (106) and to transfer the data to the mobile communications system (134), in which the billing data are formed into a bill associated with the identification data of
25 the subscriber of the mobile communications system (134).

36. A system according to claim 24, characterized in that the service access point (110) is configured to maintain the first data transfer connection (106) initially set up between the data transfer device (100) and the service access point (110) until login.

30 37. A system according to claim 24, characterized in that the authentication server (114) is configured to transmit a second password from the service access point (110) to the data transfer device (100) over the first data transfer connection (106) and the data transfer device (100) is configured to also use the second password in connection with login.

35 38. A system according to claim 24, characterized in that the authentication server (114) is configured to transmit a confirmation

identifier via the service access point (110) to the data transfer device (100) over the first data transfer connection (106) and to transmit the same confirmation identifier to the subscriber terminal (102) together with the password.

5 39. A system according to claim 24, **characterized** in that the first data transfer connection (106) is set up when the subscriber terminal (102) is roaming.

10 40. A system according to claim 39, **characterized** in that the visited mobile communications system (126) is configured to inform the subscriber terminal (102) that if the roaming by the subscriber terminal (102) in the visited mobile communications system (126) fulfils a predetermined criterion, the data transfer connection (106) from the data transfer device (100) to the service access point (110) is provided at a lower charge than usual, and the authentication server (114) is configured to implement the data transfer connection (106) from the data transfer device (100) to the service access point (110) at a lower charge than usual if the predetermined criterion is met.

15 41. A system according to claim 40, **characterized** in that the visited mobile communications system (126) is configured to receive from the subscriber terminal (102) information indicating that a data transfer connection (106) to the service access point (110) provided at a lower charge than usual is preferred.

20 42. A system according to claim 41, **characterized** in that the authentication server (114) is configured to receive from the visited mobile communications system (126) information indicating that the data transfer device (100) of the user of the subscriber terminal (102) will be provided with a data transfer connection (106) to the service access point (110) implemented at a lower charge than usual.

25 43. A system according to claim 40, **characterized** in that the predetermined criterion is met if the subscriber terminal (102) contacts the visited mobile communications system (126) and/or if the subscriber terminal (102) continues roaming in the visited mobile communications system (126) continues for a predetermined time.

30 44. A system according to claim 40, **characterized** in that to check whether the predetermined criterion is met, a periodic query is made to the home location register (130) of the home mobile communications system (134) of the subscriber terminal (102).

45. A system according to claim 24, characterized in that the data transfer device (100) is configured to use the mobile subscriber identification data as the password to log in to the service access point (110).

46. A system according to claim 24, characterized in that the authentication server (114) is configured to transmit a user ID to the subscriber terminal (102) corresponding to the identification data of the subscriber of the mobile communications system (134) and the data transfer device (100) is configured to use the user ID transmitted to the subscriber terminal (102) in connection with login to the service access point (110).

47. A system according to claim 24, characterized in that the authentication server (114) is configured to transmit the user ID via the service access point (110) to the data transfer device (100) over the first data transfer connection (106) and the data transfer device (100) is configured to use the user ID transmitted to the data transfer device (100) in connection with login to the service access point (110).

10

15